Healthcare in the Modern Era

Technologies such as AR, VR and AI have revolutionized how patient data is recorded, meaning the clipboards on beds and doctors' rounds are now things of the past. Using powerful workstations, information is now viewed on high-definition screens and acted upon in minutes for greater patient care. There can be no doubt that technology plays an important role in advancing the goals of healthcare organizations and their systems, as well as ensuring patient safety. So, if you are working in or planning to operate in healthcare or companies serving it, you will have to be prepared to look at your toolsets.

See the most common industry workflows below.

PACS / VNA / Patient Care Applications

Image quality and consistency are vitally important to confidently achieving a precise diagnosis, and successful course of treatment. And as radiology, cardiology, and other medical imaging becomes more commonplace, PACS plays an increasingly vital role in assisting with diagnosis and defining an appropriate care pathway.

Healthcare organizations need to keep pace with unprecedented data speeds and volumes generated by higher-resolution medical images and share those images between different facilities and hospital groups.

Dell's high-performance Precision Towers are built to handle large data loads and power the most intensive applications.

See how the top HCLS companies have been applying PACS below.

Some leading companies that are providing PACS solutions include: Barco Solution – Agfa – GE Healthcare – Fuji – Siemens.

Dell's Precision workstations are powerful enough to handle these massive data sets brought about by higher resolution images and certified by the leading PACS vendors to run their high-definition display controllers.

This enables organizations to incorporate new technologies such as AI & ML to enhance the accuracy of the diagnosis.

You too can easily integrate workstations into your current infrastructure to successfully increase performance and productivity on your PACS implementations and ensure a solution that provides a seamless workflow to users.

Dell Precision workstations are ISV certified and exceed these requirements, providing best-in-class serviceability, superb power and rock-solid dependability.

Challenges:

1. Facilitate management of growing data sets brought about by higher resolution medical imaging.
2. The ability to provide access to the images created by multidisciplinary teams across multiple locations.

Overcome those challenges with Dell's solutions below:

PACS/VNA/Patient Care

Data Science

Medical Imaging

Precision 7820 Tower

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The best tools for radiologists who need to work efficiently and confidently to enable positive outcomes.

Dell's Precision workstations are the most powerful workstations in the world and are built to drive the most intensive applications, while powering Barco's world-class displays for ultimate viewing and color accuracy.

Dell Precision 7820 Tower Workstation Barco Coronis Fusion 6MP diagnostic display for general PACS.

The power to grow.
Push your ideas beyond boundaries with the Precision 7820 Tower. Featuring a dual-socket architecture for maximum performance in a compact design, backed up with the latest Intel® Xeon® processors.
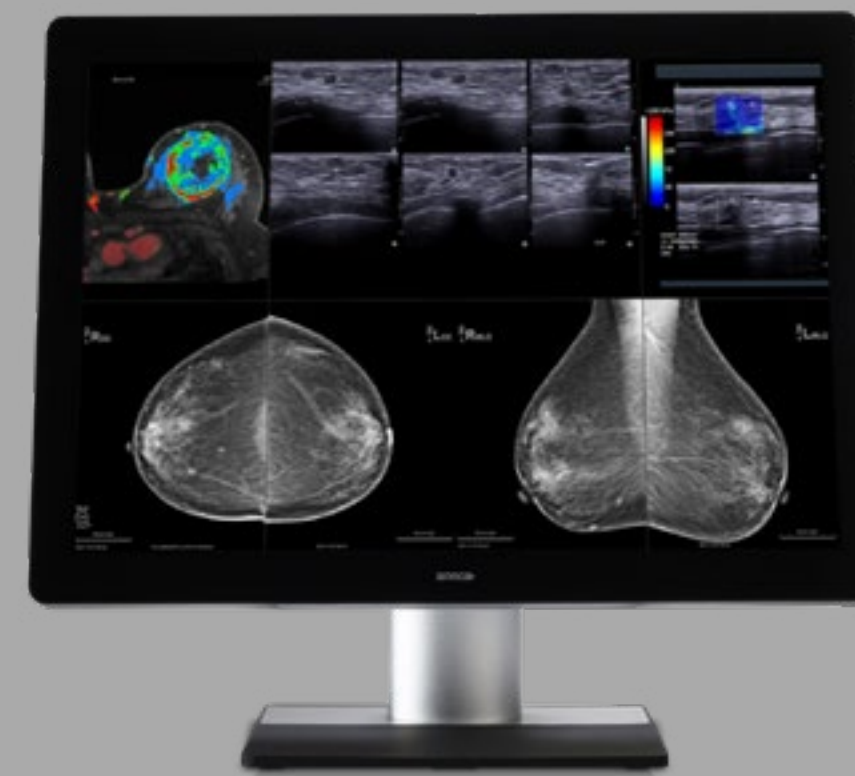
Ergotron Anthro radiology desk.
This sleek dual-surface radiology reading desk provides easy adjustability to keep you comfortable and productive all day long.

Barco Nio 3MP Diagnostic Displays
Nio Color 3MP is a 3 megapixel high-bright color display system with LED backlights, providing excellent image quality for confident diagnoses.

Barco Coronis Uniti 12MP Mammography & Tomography Display Meets Coronis Uniti®
The only display explicitly designed for both PACS and breast imaging.

Dell Wireless Premium Keyboard and Mouse Combo | KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

Dell Portable Thunderbolt™ 3 SSD 1TB
Backup or transfer files and imaging at lightning fast speeds up to 2800 MB/second with the Dell Portable Thunderbolt™ 3 SSD 1TB.
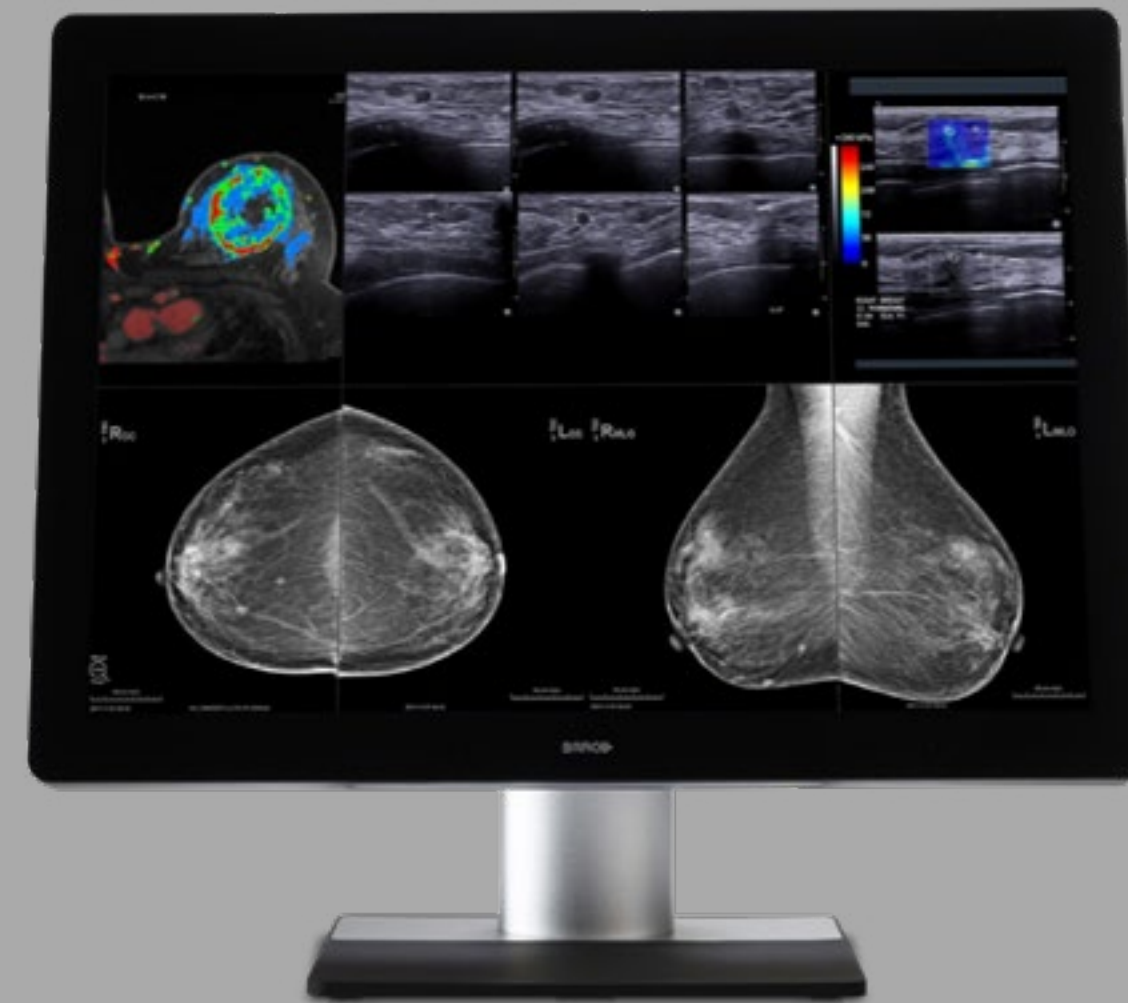
PACS Solution

Precision 5820

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Dell's robust partner ecosystem continues to grow, supporting round-the-clock patient care with an infrastructure that delivers the highest levels of performance, availability, security, and automation.

Our solutions for the EMR and Advanced Medical Imaging integrate our industry-leading partners' clinical applications with our best-of-breed technologies to accelerate deployment, simplify environments, increase efficiency, and lower risk.

Perfected to your vision.
Expand your ideas with the Precision 5820 Tower. Featuring high performance in a new innovative, versatile compact design.

Built for your future.
Your Precision 5820 Tower grows with your ideas no matter where they take you, thanks to a new chassis that combines a versatile design with outstanding storage scalability, and performance with the latest Intel® Xeon® processors available.

Barco Coronis Uniti 12MP Mammography & Tomography Display Meets Coronis Uniti®
The only display explicitly designed for both PACS and breast imaging.

Dell Wireless Premium Keyboard and Mouse Combo | KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

Research / Academic Medical Center Applications

Clinical research and medical training has changed considerably in the last few decades. Thanks to technological developments in imaging, virtualization, AR, VR, artificial intelligence (AI), and more, they are more streamlined than ever before. At the same time, these technologies are creating a more affordable, more effective, and more standardized research environment.

As a worldwide leader in Healthcare and Life Sciences IT solutions, Dell offers workstations with the computational power to analyze and act on large research data sets and the screen resolution to view trials and research content in the greatest possible detail for fast and effective outcomes.

RESEARCH

Flat screens limit perspective. By processing data in a 3D environment, Dell's VR and visualization solutions help medical research professionals boost productivity to take healthcare to the next level. Traditional screens limit what you can fit in and interact with. Loading your data in 3D allows you to see and interact with it all. This is particularly® beneficial for gene sequencing.

TRAINING

The National Training Laboratories have found 'learning by doing' using VR exercises, results in 75% of what it teaches being retained. Compare this with traditional techniques such as lectures and reading (5% and 10% respectively). The incredible opportunity VR and AR represents for medical training is obvious. With Dell's Precision mobile workstations, clinicians can create fully-immersive AR and VR content with next-generation NVIDIA Quadro® professional graphics, and powerful performance normally found only in tower workstations.

Challenges:

1. Trying to simulate an operating room environment and surgical tasks.
2. Discrepancies in hardware and software requirements arising due to different application fields.
3. Different researchers emphasizing different models of research utilization.

Overcome those challenges with Dell's solutions below:

Research/Academic

Data Science

3D Medical Labs

Precision 3640 Tower

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The human body is a 3D structure, so it makes sense to be able to create 3D models in intricate detail that allows clinicians to dissect right through the body, without having to be in the lab. Dell's Precision workstations provide the capability for medical labs to load data into a 3D environment to see and interact with all of it simultaneously.
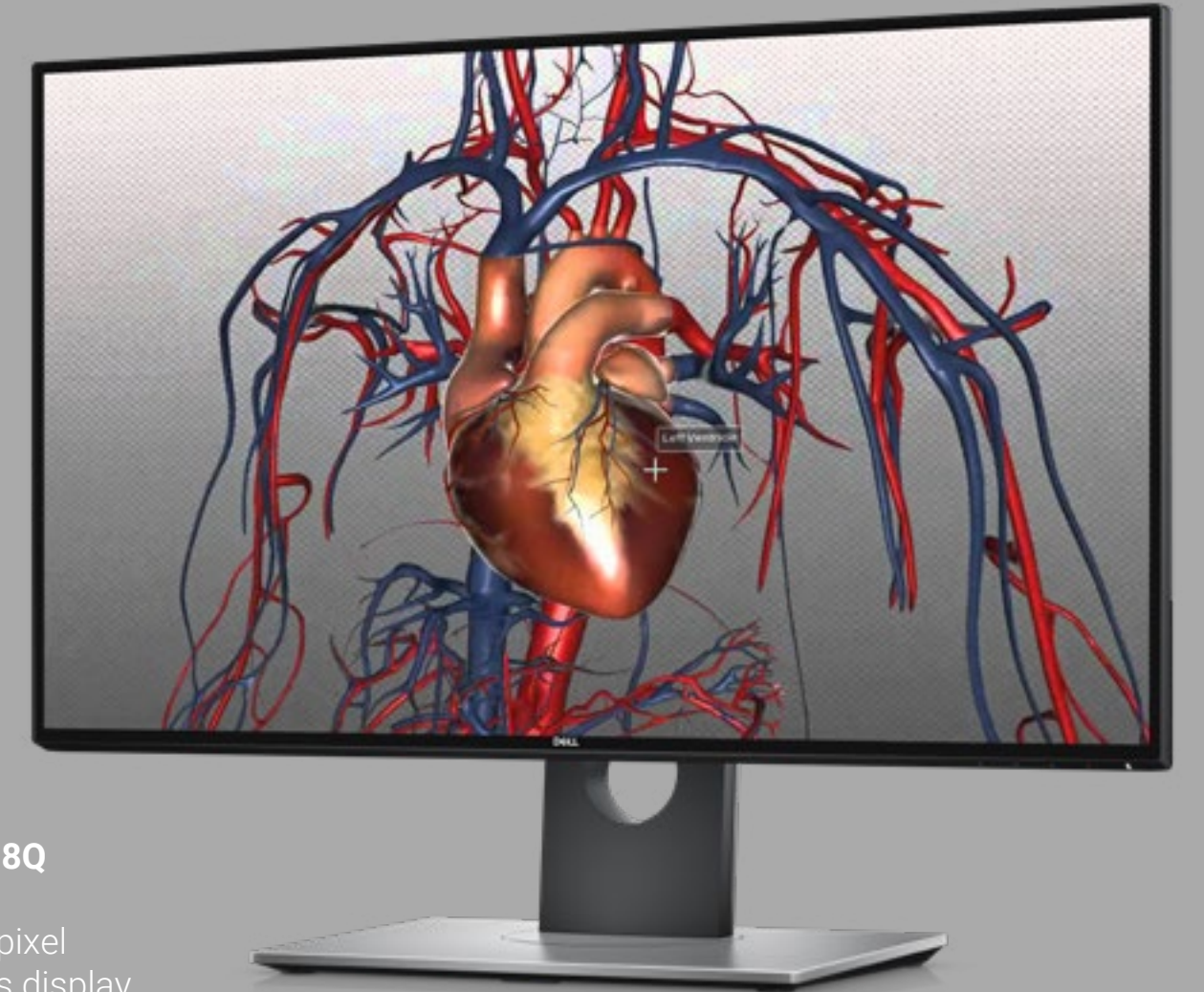
Small but mighty VR creation
Harness the power of workstation performance, VR content creation and reliability in an affordable, smaller, yet expandable tower design ,featuring the latest Intel® Xeon® processors.

Ready for VR
Prepare yourself for impressive VR in the surprisingly affordable Precision 3640 Tower. Next generation AMD Radeon™ Pro and NVIDIA® Quadro® professional graphics with up to 225W of graphics support handles VR content creation with workstation-class performance you can count on.

Dell Wireless Premium Keyboard and Mouse Combo | KM717
Enjoy an elegant design that fits into virtually any workspace.

HTC Vive Cosmos
Use virtual reality to train students. Load CT- and MRI-Scans in DICOM format to view, annotate and modify them in real 3D.

Dell UltraSharp 27 4K Monitor | U2718Q
The world's first 27" 4K monitor with InfinityEdge. See stunning colors and pixel perfect details on a virtually borderless display.

Medical Teaching in 3D

Precision 5750 and 7000 Series

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Being able to use VR and 3D modeling is now not only helping to achieve greater knowledge retention for medical learners, but is also better preparing medical students to address life and death situations. Dell's Precision 5750 and 7000 series mobile workstations allow users to convert existing didactic modules into interactive virtual reality modules to increase immersion, engagement and retention, and reduce the cost of training.

Superior power. Slim design.
Incredibly powerful 15" and 17" mobile workstations in a premium design that looks as good as it performs. Redesigned to be thinner, lighter and Ready for VR. Featuring the latest generation Intel® Core™ and Xeon® processors.

Precision 7000 Series Mobile Workstations
- CPU: **Dual Intel® i7, i9, Xeon®**
- Memory: **32/128GB 2933MHz Super Speed**
- Graphics: **NVIDIA® RTX 5000**
- Storage: **1TB NVMe, SSD**

Redefine reality
Create fully-immersive AR and VR content with next generation NVIDIA® Quadro® professional graphics and powerful performance normally found only in tower workstations.

Precision 5750 Mobile Workstation
- CPU: **Dual Intel® i7, i9, Xeon**
- Memory: **16/64GB 2933MHz Super Speed**
- Graphics: **NVIDIA® RTX 3000**
- Storage: **1TB NVMe, SSD**

Dell UltraSharp 27" 4K Monitor | U2718Q
The world's first 27" 4K monitor with InfinityEdge. See stunning colors and pixel perfect details on a virtually borderless display.

HTC Vive Pro Eye™
Immersion equates better information retention, and therefore better teaching. Record your lesson in VR and export it as a fully immersive Virtual Reality lesson, a 360° movie or a normal movie.

Dell Wireless Premium Keyboard and Mouse Combo | KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

Dell Performance Dock | WD19DC
Incredibly powerful Thunderbolt Dock delivering up to 210W. Leave your power brick at home and plug in one cable for both data and power for your Precision 7540/7740 workstation.

VR Gene Sequencing

Precision 7920 Tower

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With genome sequencing, Researchers have a critical gateway to understanding the underlying molecular pathways for disease. And for some diseases, every hour closer to discovery and results can mean the difference between life and death. Today's workflows require computational power, storage and processing capabilities. Dell's Precision 7920 Tower enables clinicians to analyze and work with larger amounts of data, create more realistic models and determine better treatment paths through the utilization of immersive technology such as VR/AR.

Max performance. Superior scalability.
The world's most powerful workstation, the new Precision 7920 Tower provides ultimate performance and scalability to grow alongside your vision.

CPU: **Dual Intel® Xeon® Platinum**
Memory: **128GB 2933MHz**
Graphics: **NVIDIA® Quadro® RTX 6000**
Storage: **1TB NVMe, 1.2TB SAS**

Redefine reality
Create fully-immersive AR and VR content with next generation NVIDIA® Quadro® professional graphics and powerful performance normally found only in tower workstations.

Dell Wireless Premium Keyboard and Mouse Combo | KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.
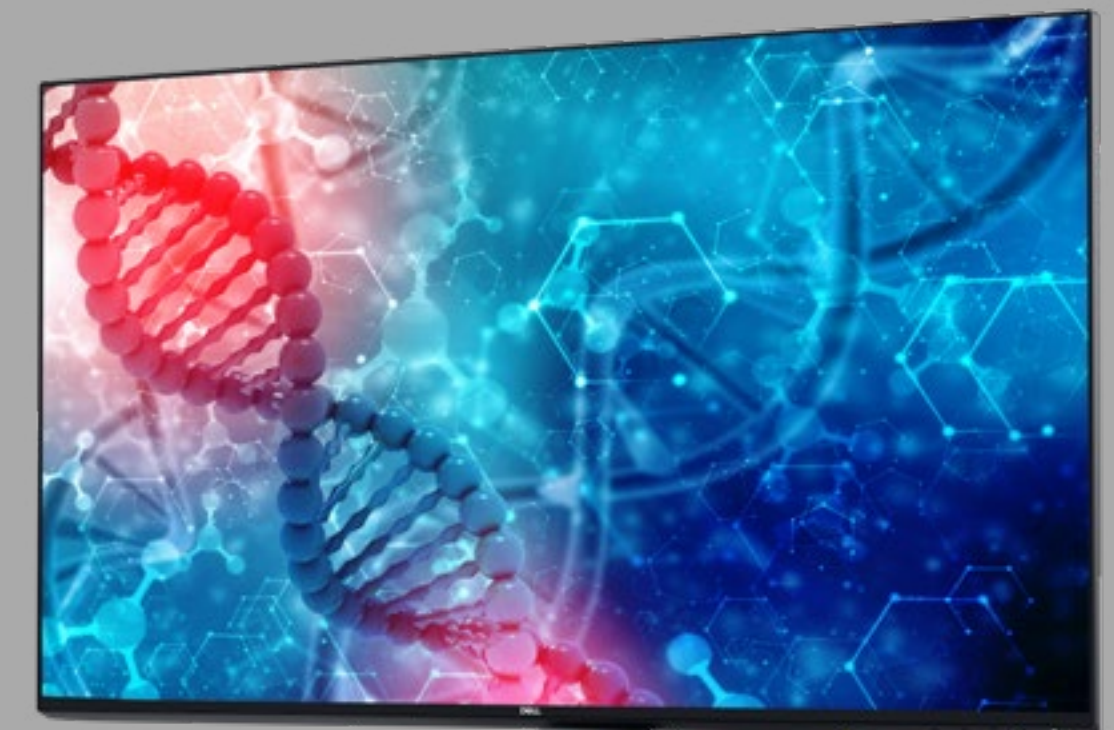
HTC Vive Pro Eye™
Immersion equates better information retention, and therefore better learning and productivity, critical for gene sequencing. Integrating VR into this workflow allows users to combine gene expression, gene pathways, proteins, and cell action data on the fly within minutes.

In fact, integrating VR into gene sequencing workflows is so transformative, it can speed up processes that previously took months on end and turn them into 5 minute jobs.

Dell UltraSharp Ultra HD 4K Monitor with PremierColor | U3219Q
The perfect display for ideal color coverage and incredible clarity on color-critical projects.

Virtual Reality/Augmented Reality, Artificial Intelligence/Machine Learning Applications

Our world is becoming more immersive with the rise of technologies such as AI, ML, AR, VR and IoT. AI uses sophisticated algorithms to 'learn' features from a large volume of healthcare data, then use the insights to assist clinical practice. In fact, oncology researchers are currently using deep learning (DL) algorithms to recognize cancerous tissue at a level comparable to trained physicians. Dell Precision workstations deliver the power to deploy and manage cognitive technology platforms, including AI, and its sub-sets machine learning (ML) and deep learning (DL). We collaborate with a select group of industry partners to deliver versatile cognitive technology workstation configurations, so every machine exceeds expectation. It's a cost-effective solution that puts these advanced technologies within reach.

SURGICAL PLANNING

VR and AR are transforming the operating room in ways we never dreamed possible. Surgeons are now able to plan surgeries in completion before the first incision is made using a combination of MRI and augmented reality.

SURGERY REHEARSAL

Difficult surgeries, such as those involving the brain, throat, and heart are nerve-wracking for the surgical team and the patient. This stress can be alleviated with the use of VR technology and digital recreations of the human body that enable surgeons to practice and rehearse in advance in a zero-risk environment.

RESEARCH & CLINICAL DECISION SUPPORT

As a knowledge-base that generates patient specific assessments and recommendations for clinicians and researchers when and where those decisions are being made, AI can improve research and clinical decision support (CDS) to provide the best service possible.

MEDICAL IMAGING

Similar to CDS tools, medical imaging AI provides physicians with additional information that empowers them to quickly and accurately diagnose particular conditions. An algorithm could be written, for example, to review a million different chest films, both with and without malignancies, helping them to spot malignancies.

Challenges:

1. Algorithm opacity.
2. Patient privacy and data security.

Overcome those challenges with Dell's solutions below:

VR / AR / AI

Data Science

Surgery Planning in AR

Precision 3640 Tower

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Safe surgery saves liveslives, and the ability to create a surgical simulation in pin-sharp 3D imaging and navigate around the virtual body can help de-risk a procedure long before the first incision is made. Dell's Precision 3640 Tower and high-resolution screens can really help to bring ideas to life and make surgery safer.

Small but mighty VR creation.
Harness the power of workstation performance, AR/VR content creation and reliability in an affordable, smaller, yet expandable tower design featuring the latest Intel® Core™ and Xeon® processors.

Ready for VR.
Prepare yourself for impressive AR/VR in the surprisingly affordable Precision 3640 Tower. Next generation AMD Radeon™ Pro and NVIDIA® Quadro® professional graphics with up to 225W of graphics support handles VR content creation with workstation-class performance you can count on.

Dell 24 Touch Monitor | P2418HT
Bring your ideas to life with a new 24" workspace that empowers precise digital surgery preparation. Featuring an innovative pen and totem, P2418HT features intuitive, responsive touch capabilities designed to improve your workflow.

Ergotron 24-189-055 Neo-Flex WideView WorkSpace Cart
Widen your view and move it too. Configure this compact, height-adjustable computer cart to your needs: Flexible open architecture supports a wide range of displays and a fleet of accessories.

Microsoft HoloLens 2
Live MRI data can be exported into augmented reality via Render-X and allow you to see inside a patient and plan your surgery in advance.

Dell Premier Wireless Keyboard and Mouse – KM717
Enjoy an elegant design that fits into virtually any workspace.

Surgery Rehearsal in VR

Precision 5750 and 7000 Series

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To prepare for surgery, doctors are now using virtual reality to allow patients to preview their own procedure – providing them with greater peace of mind. Not only that, but the technology also enables surgeons to improve their approach to the procedure using a 3D model of the body. Dell's Precision 5750 and 7000 Series mobile workstations allow surgeons to create fully-immersive AR and VR content for more precise planning and safer outcomes.

Superior power. Slim design.
Incredibly powerful 15" and 17" mobile workstations in a premium design that looks as good as it performs. Redesigned to be thinner, lighter and Ready for VR, featuring the latest generation Intel® Core™ and Xeon® processors.

Precision 7000 Series Mobile Workstations
- CPU: **Dual Intel® i7, i9, Xeon**
- Memory: **32/128GB 2933MHz** : **Dual IntSuper Speed**
- Graphics: **NVIDIA® RTX 5000**
- Storage: **1TB NVMe, SSD**

Redefine reality
Create fully-immersive AR and VR content with next generation NVIDIA® Quadro® professional graphics and powerful performance normally found only in tower workstations.

Precision 5750 Mobile Workstation
- CPU: **Dual Intel® i7, i9, Xeon**
- Memory: **16/64GB 2933MHz Super Speed**
- Graphics: **NVIDIA® RTX 3000**
- Storage: **1TB NVMe, SSD**

HTC Vive Pro Eye™
Use virtual reality with ImmersiveView to practice complex surgeries in advance in a safe, repeatable environment.

Dell Premier Wireless Keyboard and Mouse Combo – KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

AI for HCLS

Precision 7920 Tower

Solve the Most Complex Problems

- Paralleled performance with DUAL Intel® Xeon® Processor Scalable Family, up to 28 cores with 38.5MB CPU memory cache.

- Latest GPU Engines using Dell Support for up to 3 NVIDIA® Quadro® RTX professional graphics cards providing deep learning training and inferencing.

- Massive Memory capacity up to 3 TB allowing fast problem solving in RAM storage.

- Better net value and security vs. cloud services without processing cycle fee constraints.

Max performance. Superior scalability.
The world's most powerful workstation, the new AI and Deep Learning enabled Precision 7920 Tower provides ultimate performance and scalability to grow alongside your vision.

Redefine reality
Create fully-immersive AR and VR content with next generation NVIDIA® Quadro® professional graphics and powerful performance normally found only in tower workstations.

Dell Precision workstations are highly reliable, scalable, and cost-effective platforms for AI and Machine Learning development and inference use cases.

Dell Wireless Premium Keyboard and Mouse Combo – KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

Dell UltraSharp 32 8K Monitor: UP3218K
For when you're shooting in 6K or 8K, this monitor allows you to review footage in its purest format.

Electronic Health Records, Electronic Medical Records

Using electronic health records (EHRs), electronic medical records (EMR) and longitudinal care plans, improves communication and coordination as patients transition across care settings. Dell's lighter, more powerful Mobile workstations can handle large data loads to safely and effectively transfer and analyze data in any location – minimizing wait times. This speedy analysis helps clinicians save lives by quickly interpreting and recording data.

See how the top HCLS companies have been applying it below.

Healthcare organizations will typically be capturing patient, clinical, and financial data in one of the following ISV solutions: Cerner – Epic – GE Healthcare – Meditech – Siemens.

While the Dell EMC infrastructure portfolio enables healthcare organizations to consolidate data sources and optimize the running of these applications, Dell's Precision workstations play a vital role in enabling detailed and in some instances, real-time analytics of the data. This enables:

- Organizations to present clinical staff with a real-time holistic patient-centered view both instantly and securely for improved patient outcomes.

- Clinical and financial reporting that provides fine grained analytics to refine workflows and define areas for optimization and improvement.

- Multi-purpose devices that can support a range of clinical applications – EMR, PACS, Lab, Research, TeleMedicine.

Challenges:

1. Finding proven workstations that have built-in and fit for purpose security that provides clinicians with peace of mind to just get on with doing their job.
2. Choice of form factor from mobile to towers that are capable of driving multiple screens including high-resolution diagnostic displays.
3. Performance and network bandwidth issues in accessing remotely hosted applications.

Overcome those challenges with Dell's EHR/EMR solutions below:

EHR/EMR

Data Science

EHR/EMR
3D Training

Precision 5550

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Our solutions for the EMR and Advanced Medical Imaging integrate our industry-leading partners' clinical applications with our best-of-breed technologies to accelerate deployment, simplify environments, increase efficiency, and lower risk.

Dell Precision 5550
Engineered to excel. Designed to impress. Dell's thinnest, lightest and smallest conventional 15" mobile workstation is more powerful than ever featuring the latest Intel® Core™ and Xeon® processors. With enhanced graphics, stunning design and best-in-class display.

CPU: Intel® i7, i9, Xeon
Memory: 16/32GB 2933MHz
Storage: NVIDIA® Quadro® T1000/T2000
Graphics: 1TB NVMe, SSD

Engineered to enhance your work Professional-grade graphics
Boost performance of extreme graphics applications with next-generation NVIDIA® Quadro® professional graphics. An intense graphics upgrade packed into an incredibly mobile design.

Simple office integration:
Thunderbolt type-C with x4 PCIe and HDMI 2.0 ports keep you connected to everything you need.

Dell Thunderbolt Dock | WD19TB
Experience ultimate productivity with the World's most powerful Thunderbolt™ dock. The WD19TB offers up to 130W of power delivery for faster charging when at your desk with Dell ExpressCharge.

Dell Wireless Premium Keyboard and Mouse Combo – KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

Rugged Solutions for HCLS and First Responders

When you get called to service, lives and property are on the line. So you rely on technology to keep up with you wherever you are called. From dispatch to being on scene or entering EPCR data from your patient, you need systems that can withstand the rugged conditions you are exposed to, while maintaining critical wireless communications throughout the call. Dell Rugged will be there for you, reliably, to provide these vital services.

FIRE FIGHTER

Overview: Whether the high heat from the burning structure or the excessive vibration while mounted on the engines doghouse, you and your computers are exposed to extreme conditions.

Why you need Dell Rugged PCs:
Your mobile solutions must endure the same rugged conditions you do. Whether on scene or in the structure investigating the cause you need rugged devices to get you there and get the job done.

EMERGENCY MEDICAL TECHNICIANS

Overview: When seconds matter, you need a reliable wireless and GPS enabled solution to get you on scene to save lives. Gathering EPCR data should be easy with flexible solutions for pen based, touch or keyboard entry. Long battery life for extended shifts and drop and ingress protection are key.

Why you need Dell Rugged PCs:
When lives matter, your technology needs to be as dependable as the care you give. Dell Rugged provides extreme reliability in all conditions with ease of use for data entry.

IT ADMINISTRATORS

Overview: Diverse assets deployed to various parts of the community require you to be able to easily manage those IT components, while trusting that reliable, secure devices can withstand extreme environments to continually perform.

Why you need Dell Rugged PCs:
System reliability for your users could mean life or death. Dell Rugged have been tested and certified to endure the conditions of your first responders, and with 24/7 access to Dell support, we are here when you need us.

FIRSTNET READY ™

Challenges:

1. Excessive vibration in fire apparatus and exposure to extreme conditions challenge reliability in computing platforms.
2. Reliable communications and GPS solutions needed for critical time sensitive incident response.
3. EMT first responders are constantly on the go, frequently utilizing tablets to input patient diagnostics, obtain signatures and track data.

Overcome those challenges with Dell's solutions below.

EPCR Mobile and Mounted Solutions

Dell Latitude 7220 Rugged Extreme Tablet

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Dell Rugged always gives you reliability, with flexible mobility options that support long shifts, high-pressure environments and optimal uptime.

Rock-solid reliability, security and manageability.

Most Reliable: Features a durable, built-to-last chassis that has undergone extensive military-grade MIL-STD 810G testing, ensuring that your system can withstand real world conditions.

Most Secure: Our award-winning endpoint security solutions include comprehensive encryption, advanced authentication and leading-edge threat protection with Dell Data Protection.

Most Manageable: The world's most manageable rugged system is built to allow flexible and automated BIOS and system configurations via Dell Client Command Suite, so it's easy to deploy, monitor and update your fleet.

Take mobility to the extreme

Easier to carry: A tablet built to lighten your load on the job, weighing in at only 2.82 lbs.

Work anywhere: The optional shoulder strap, soft handle, chest harness and crash-certified vehicle docking, deliver maximum mobility to keep up with you.

Steadfast connection: Optimized mobile connectivity that's 2X faster, and dedicated GPS, keeps you connected at the most critical moments even in remote locations.

Performance where you need it: Featuring the latest 8th Gen Intel® Core™ processors to power through the day.

FIRSTNET READY ™

Rugged accessories:

Rugged tablet & notebook carrying accessories
Take your rugged tablet and notebook anywhere in the field, with lightweight and flexible shoulder straps, durable nylon and rigid handles, and easy-to-use cross-straps and chest-straps.

Rugged tablet dock
Maximize productivity when the job brings you back to the office with the Tablet Desk Dock. Offers dual display support, serial connection, USB peripheral connections and dual spare battery charging slots.
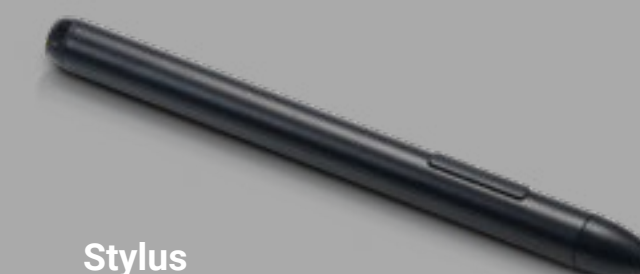
Keyboard Cover & Kick stand
Increase your productivity in the field by adding an IP-65 rated full-size keyboard with customizable RGB backlit keys. The keyboard cover also offers additional screen protection and comes with a 180˚ kickstand.

Stylus
Get the most input responsiveness with an active Stylus. This Stylus is self-powered for a responsive pen experience on your Rugged Tablet.

Vehicle Docking
Flexible Docking Solutions offer computer charging, security, and connection to peripherals in-vehicle workplaces. Maximize productivity with these rugged lightweight docks which are built with theft deterrence, longevity and stability in mind.

Fire/Rescue Services – Mobile/Mounted

Dell Latitude 7424 Rugged Extreme Notebook

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When you need Rugged capability in any circumstance, Dell Rugged delivers reliability and full-scale mobility solutions to fit every scenario you encounter whilst keeping your data safe with security options like integrated SmartCard readers.

Rugged For the Real World: You can't slow down when the job is tough. No matter what challenges the world throws at you, handle them with confidence. Latitude Rugged means extreme durability for world-class reliability in rough conditions.

Productivity Anywhere: You need to stay productive and work efficiently even when the elements are working against you. Latitude Rugged is designed for the way you work with features like outdoor-readable displays, glove-capable touch, legacy IO capability and advanced wireless connectivity.

Business Class Control: The Dell Latitude Rugged portfolio allows you to take your business to the world's most challenging job sites. Latitude Rugged systems keep you in control of your technology with the same industry-leading security, manageability and reliability as the rest of the Dell Latitude portfolio.

Nerves of steel.

The latest 14" notebook made with shock-absorbent materials that meets rigorous military-standard requirements. Compression-sealed from sand, dust and liquids. Rugged performance powered by the latest 8th Gen Intel® Core™ processors.

A True Workhorse.

The Dell Rugged Extreme 7424 offers the ability to add discrete graphics, optical disk drive, GPS and mobile broadband, to ensure you have the power you need, as well as dual hot swappable batteries for non-stop use.

FIRSTNET READY ™

Rugged accessories:

Battery Charger
Simultaneously charge Dell batteries for the 5420, 5424 and 7424 Dell Latitude Rugged notebooks and 7220 and 7212 tablets to keep spare batteries fully charged and ready-to-go to power your day.

All Day Power
Confidently stay to task all day with Dell Rugged dual hot swappable battery technology.

Shoulder strap
Enhance the portability of your notebook with the lightweight and flexible shoulder strap. The strap attaches easily and securely to the Quick Disconnect receptacles on the system and is easily removed when necessary.

Docking Solutions
Flexible docking solutions for the office, vehicle or any remote location where you need to be connected. Connect to legacy IO, peripherals and networks with ease where your job takes you.

Fire/EMS Services – Back Office/Inspections

Dell Latitude 5420/5424 Rugged Notebook

————

Dell Rugged ensures optimal fleet support and security, so you and your team have a reliable solution during the most challenging moments.

Rugged For the Real World: You can't slow down when the job is tough. No matter what challenges the world throws at you, handle them with confidence. Latitude Rugged means extreme durability for world-class reliability in rough conditions.

Productivity Anywhere: You need to stay productive and work efficiently even when the elements are working against you. Latitude Rugged is designed for the way you work with features like outdoor-readable displays, glove-capable touch, legacy IO capability and advanced wireless connectivity.

Business Class Control: The Dell Latitude Rugged portfolio allows you to take your business to the world's most challenging job sites. Latitude Rugged systems keep you in control of your technology with the same industry-leading security, manageability and reliability as the rest of the Dell Latitude portfolio.

Works as hard as you do.

The latest 14" notebook built to withstand shocks, drops and vibrations. Thrives in extreme temperatures with QuadCool™ thermal management and 1000 NIT daylight readable touch screens.

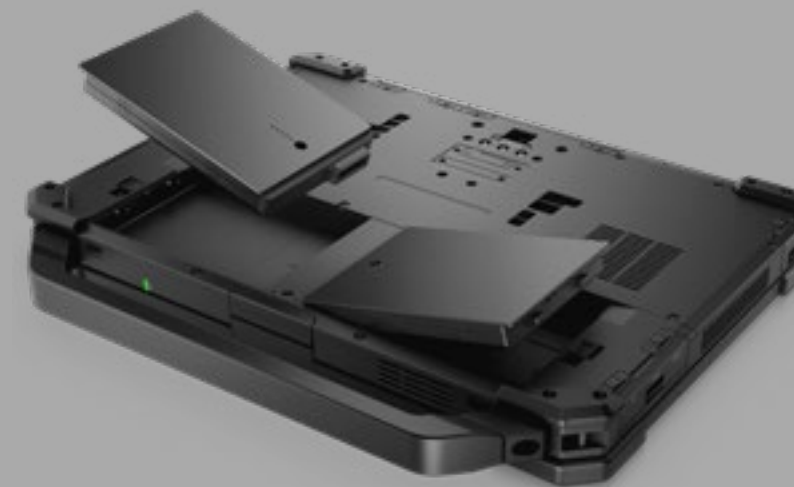Rugged performance powered by the latest 8th Gen Intel® Core™ processors.

Only your work gets inside: All entry points are protected by mechanical doors and ingress protection of IP54 to guard against dust and water. The customizable RGB backlit keyboard is fully protected and water-resistant, while integrated security options like Smartcard and Fingerprint readers will keep unauthorized users out.

FIRSTNET READY ™

Rugged accessories:

Battery Charger
Simultaneously charge Dell batteries for the 5420, 5424 and 7424 Dell Latitude Rugged notebooks and 7220 and 7212 tablets to keep spare batteries fully charged and ready-to-go to power your day. Also it gives you more power as the day is long.

Shoulder strap
Enhance the portability of your notebook with the lightweight and flexible shoulder strap. The strap attaches easily and securely to the system and is easily removed when necessary.

All Day Power
Confidently stay to task all day with Dell Rugged dual hot swappable battery technology.

Dell Rugged Desk Dock
The Desk Dock ensures excellent video connectivity with dual Display Port outputs and also includes simple toolless adjustment and improved guiding features.

Active Stylus
Get the most input responsiveness with and active Stylus for your notebook. This Stylus is self-powered for a responsive pen experience.

AI / Machine Entry-Level Data Science Workstation

Precision 5820 Tower

An entry-level workhorse that drives productivity straight away.

Outstanding Performance from the *Intel® Xeon®* W-Processor Family and the *Intel® Xeon®* W-2145 containing 8-cores with 11MB CPU memory cache.

Dual GPU Accelerator technology featuring the *NVIDIA® Quadro® RTX 6000 + NVIDIA® NVLink™*, providing 48GB of graphics memory for up to 130 TFLOPS of deep learning data sets and enhanced dual-card compute performance.

Memory capacity up to 256GB allowing fast problem solving in RAM storage.

Better net value and security vs. cloud services without processing cycle fee constraints.

Data science workflows have traditionally been slow and cumbersome, making it difficult to prepare and parse data to gain the valuable insights locked within. Dell Precision Data Science Workstations with *NVIDIA® Quadro®* GPUs feature a fully integrated data science software stack that provide the performance required to transform massive amounts of data into insight.

Dell Data Science workstations provide an easy to deploy data science compute solution that enables enterprises to expand their data science efforts and explore data that transforms the way they do business.

Perfected to your vision.
Expand your ideas with the Precision 5820 Tower. Featuring high performance in a new innovative, versatile compact design.

- **CPU:** 8 core Intel® Xeon®
- **GPU:** NVIDIA® Quadro® RTX 6000
- **Storage (Boot):** 512TB NVMe
- **Storage (Fast):** 1TB NVMe
- **Memory:** 64GB

Built for your future.
Your Precision 5820 Tower grows with your ideas no matter where they take you, thanks to a new chassis that combines a versatile design with outstanding storage scalability.
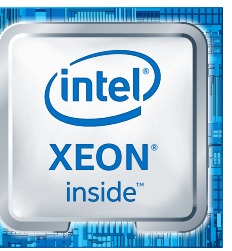
The NVIDIA® Quadro® RTX 6000 is designed to meed the requirements of demanding data science workflows. Powered by NVIDIA® Turing, delivering the extreme memory capacity, stability, and performance data scientists need to gain insights more quickly than ever before.

Dell Wireless Premium Keyboard and Mouse Combo | KM717
Keep your desk clutter-free with a modern wireless keyboard and mouse combo with scissor chiclet keys and LED tracking.

Dell UltraSharp 32 4K USB-C Monitor | U3219Q
Experience outstanding screen performance on this 31.5" 4K USB-C monitor featuring InfinityEdge and multitasking capabilities.

AI / Machine Learning Ultra Performance Data Science Workstation

Precision 7920 Tower

Take a step up with our most versatile, Data Science-targeted Precision 7920 offering featuring dual CPUs and GPUs.

Outstanding Scalability using Dell Precision 7000 Series Tower or Rack workstations.

Paralleled performance from the *Intel® Xeon®* Scalable Processor Family and Dual *Intel® Silver® 4100* CPUs containing 16 total cores.

Dual GPU Accelerator technology featuring the *NVIDIA® Quadro® RTX 8000 + NVIDIA® NVLink* providing 96GB of graphics memory for larger data science data sets and enhanced dual-card compute performance.

Massive Memory capacity up to 3TB allowing fast problem solving in RAM storage.

Data science workflows have traditionally been slow and cumbersome, making it difficult to prepare and parse data to gain the valuable insights locked within. Dell Precision Data Science Workstations with *NVIDIA® Quadro®* GPUs feature a fully integrated data science software stack that provide the performance required to transform massive amounts of data into insight.

Dell Data Science workstations provide an easy to deploy data science compute solution that enables enterprises to expand their data science efforts and explore data that transforms the way they do business.

No project is too big.
The Precision 7920 Tower grows with your ideas no matter where they take you, thanks to a new FlexBay design that combines a versatile chassis with outstanding storage scalability.

The NVIDIA® Quadro® RTX 8000 is designed to meet the requirements of demanding data science workflows. Powered by NVIDIA® Turing, delivering the extreme memory capacity, stability, and performance data scientists need to gain insights more quickly than ever before.

Max performance. Superior scalability.
The new AI and Deep Learning enabled Precision 7920 Tower provides ultimate performance and scalability to grow alongside your vision.

- **Number of CPUs:** 2
- **CPU:** Intel® Xeon® Silver 8 Cores
- **GPU:** 2x NVIDIA® Quadro® RTX 8000 + NVIDIA® NVLink™
- **Storage (Boot):** 1TB SSD
- **Storage 1 (Fast):** 2 x 1TB NVMe
- **Memory:** 192GB
- **Network:** 1Gb integrated (10Gb Optional)

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